Estimation prone area estimation eksplosion wanderer locusts: Study in south sulawesi

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Based on several previous studies, it is known that there are several □actors which caused the population explosion locusts in a region. One o□ the main □actors as the cause o□ the population explosion locusts wanderer drought is a □actor. Drought can trigger growth and development o□ the locusts [1], [2], [3].
Indonesia As the area drought that has caused concern impending population explosion locusts increasingly widespread in various areas in Indonesia. Prolonged drought with temperature which is quite high due by low temperatures. Fasi□ik Ocean and atmospheric temperature bottom re□erred to as the El-Nino storms [4].
Thornthwaite in [5] suggested that the lack o□ water may not occur when the same precipitation the potential evapotranspiration all the time. This situation will not cause the incident moist and dry due to the input and water loss is always balanced. Furthermore, the drought index is □ormulated as a percentage o□ the size comparison. Among a total lack o soil moisture the total water demand or potential evapotranspiration, which are both taken into account the annual amount [6].
Various e□fects such as droughts and □orest □ires causing ecosystem changes among other locusts. It never happened in some places in Indonesia like in Halmahera, East Kalimantan, Sumatra, Sumba Island and South Sulawesi, respectively in 1990, 1997 and 1998 [1], [7], [8]. Widespread attacks locusts in some areas Indonesia's causing this to be the main topic o□ the news during the month o□ April-May 1998, daily Kompas [9].
The growing population o□ certain species can be caused by two □actors namely extrinsic □actors (external population) and intrinsic (internal population). Extrinsic □actors eg climate, soil and topography, while intrinsic □actors eg predators and disease. This is consistent with the view Chapman in [10], [11] which states that there are two □actors that a□fect the population. First, the biotic potential (BP) namely the ability o□ the population to maintain the number o□ members o□ the population, so it will remain stable and managed to live (survive) in nature. Second, the environmental resistance (ER) ie □actors outside pupulasi which limits the opportunity or ability o□ the population lives (depending on intensity). Both □actors are complementary in shaping the population dynamics □rom time to time.
Extrinsic □actors are very in□luential the enactment o□ the population dynamics o□ locusts wanderer. Extrinsic □actors that helped in□luence are natural enemies (parasites, predators and pathogens), host availability, soil conditions, water availability and certain organic elements. Facilitate the sandy soil texture grasshoppers lay their eggs in the soil, moreover the availability o□ water and organic matter accelerates physical growth locusts [9]. The increase in population will increase i□ supported by a population o□ intrinsic □actor which includes, among others, □ecundity (personality), sex ratio (sex ratio), sex □actor (sex

□actor) competition in the population (intraspecipic compotition), population growth rate strategy (intrinsic growth rate) and others.
Some results o□ the study indicate that environmental □actors are very berpengaruh resistance the locust population development wanderer, as it has been executed by Paker and Shel□ood. Paker in□er that grasshopper eggs develop □aster in temperatures volatile than the state □ixed. Similar studies have also been carried out by Shel□ood, the result is the eggs and larvae or pupa, 7 or 8 percent □aster temperature under the circumstances changing compared the eggs in a steady state or constant [12]. The results o□ the study Tsao in China □rom 2000 BC - 1900 AD also □ound that the dry season is an important □actor o□ population explosion locusts the correlation coe□ficient was r = 0.92. He also explained that marked the beginning o□ an attack with an increasing number and population density on the grass during the dry season which is longer than usual. As the results o□ the study Uvarov in City Belud District Sabah, Borneo which □ound that the main attack o□ locusts extreme in the area o□ grasses, reeds dominant (limperata cylindrca), □ollowing the clearing o□ □orests [13]. Budiyanto also added that the practice o□ shi□ting planting ie cultivate land in the rainy season and a single burning in the dry season as well as trigger the explosion locusts. Is very appropriate agricultural practices grasshopper development, because it can provide □ood and shelter □or locusts to lay their eggs.
To see the spatial distribution o□ potential areas locusts, then do geogra□is yaitu approach using the ecological approach (ecological approach) and spatial approach (spatial approach). Both o□ these approaches are used to identi□y and analyze the explosion-prone areas, especially locusts wanderer in South Sulawesi.

2. Methods

Tool used in this study is also divided into two, namely the equipment used in the □ield and the tools used in the laboratory. Tools used in the □ield consisted o□: soil test kit, plastic bags, stationery and camera. Meanwhile, the equipment used in the laboratory include: so□twere GIS, soil texture by the pipette method tools: glass cup (glass beaker) dua liter, satu liter measuring cup, si□ter 50 □, 100□, 200□, and 500□, bath damper, thermometer, pipettes 50 ml, porcelain bowls and oven stopwatch.